SANAV™

GSM/GPS Micro Tracker

Model TRACKSTARIII

User's Manual

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PREFACE

Thank you for purchasing the SAN JOSE NAVIGATION TRACKSTARIII GSM/GPS Micro Tracker. This deliberately edited manual is to introduce the users, to provide the complete technical data that is needed, and so as to operate TRACKSTARIII smoothly and correctly as soon as possible. Make sure to read this manual carefully before using this product. Most problems will be solved through the explanations and the troubleshooting tips. Once you finish reading it, keep it handy for necessary reference.

Please note that specification and information are subject to change without prior notice in this manual. Any change consequently will be integrated into future editions. The manufacturer assumes no responsibility for any errors or omissions in this document.

This manual is divided into the following chapters:

Chapter	Content	Information
1	Hardware Description	Brief Introduction of Hardware Parts and Status
2	Getting Started	General Installation & Operation Guide
3	General Functions	Complete Functions Description
4	Setup SMS Messages	Detail Setup SMS Messages Information
5	Respond SMS Messages	Detail Respond SMS Messages Explanation
6	NMEA-0183 $GPRMC Description	NMEA-0183 $GPRMC GPS Coordinate Data Description
7	General Specifications	Specifications of modules used in TRACKSTARIII
8	Warranty	After Sales Services & Limited Warranty for this Product
9	FAQ	Trouble Shooting

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Table of Contents

1 **Hardware Description**.....5

2 **Getting Started**.....10

3 **General Functions**.....11

4 **Setup SMS Messages**.....13

4.1 Change ID. 14
4.2 Built-in Cellular Phone Setup.....15
4.3 Report Interval Setup.....16
4.4 Remote Parking Start Setup.....17
4.5 Reset to Factory Default.....18
4.6 Change Password.....19
4.7 SMS Polling Command.....20
4.8 Inquire IMEI code.....21

5 **Respond SMS Messages**.....22

5.1 Polling/Auto Report.....23
5.2 Parking.....24
5.3 Move.....25
5.4 Emergency.....26
5.5 Power Low Alert.....27

6 **NMEA GPRMC Description**.....27

7 **General Specifications**.....28

8 **Warranty**.....29

9. **FAQ**.....30

Chapter 1 Hardware Description

Main Unit

Package Contents	
Battery x2 (one in the main unit)	Wall Charger (100 ~ 240V AC) x1
CD x1 (User manual & MapTracking software)	Cigar Charger (8 ~ 38V DC) x1

Optional Accessories For Map Tracking	
Personal Computer	Cellular Phone (*Sagem X2, Siemens C62*)
Modem (*Siemens TC35, MC35*)	Vector Map (*Microsoft Street & Trip 2004, MapPoint2004, GPSS, Fugawi, PaPaGo, MapKing*)

Necessary Accessories For PDA Track	
PDA Phone (For OS: Windows Mobile edition or it above version only)	Map For Pocket PC
VSPK CE (Download the trial version here: http://www.virtual-com-port.com/downloads.html It's also included in the attached CD)	PDA Track (Provided by San Jose Inc. and included in the CD)

ON/OFF Switch	
	Turn On/Off TRACKSTARIII by this switch While initializing TRACKSTARIII by switching it on, TRACKSTARIII's Link, Fix and Park LEDs will light for 3 seconds, and become off. TRACKSTARIII will then start searching the GSM station and getting the GPS fix.

Eject Button	
	Use a sharp tool to eject the SIM card slot. Please read the SIM Card Slot for more information about how to insert a SIM card in it.

GSM Indicator (Red LED)	
	Blinking when TRACKSTARIII is searching GSM network service Light still and have a short blinking every 4 seconds when GSM service is available Off when no power

GPS Indicator (Blue LED)	
	Off when GPS is not available On when TRACKSTARIII fixes the current GPS position

Mini-USB Connector	
	This Reserved Com Port is for engineering purpose. Please do not try to utilize it before having proper instruction.
External DC Power Connector	
	TRACKSTARIII power source that adapts 6V DC

Wall Charger	
 	The picture shows the European standard (100V~250V) wall charger. It takes about 3 hours to fully charge the battery.

Cigar Charger	
	The picture shows the cigar charger, which you can charge the TRACKSTARIII in the car. It takes about 3 hours to fully charge the battery.

SIM Card Slot	
	1. Use a sharp tool to eject the SIM card slot. 2. Pull the slot out and put a valid SIM card in it by following the correct orientation. Before that, you have to deactivate the PIN code if there is any. 3. Push the slot back into the TRACKSTARIII. Don't push too hard if you find it difficult to insert the slot. Try to pull it out and push it back gently.

Park	
	1. Press when you park your car. 2. When Park function is activated, the green LED will be lighted on. The LED is embedded at the place where the red arrow points in the picture. 3. Towed SMS will be sent when your car is moved over 500m from the parked place.

Emergency Panic Button	
	Press when an emergency situation occurs. Built-in buzzer will start buzzing for alert. Emergency SMS messages will also be sent to the built-in cellular phone number(s)

Battery	
	1. If you would like to change the battery, you may open the battery case by sliding the plastic cover. 2. After removing the cover, unplug the connector. See the picture placed in the middle. 3. Pull out the battery and install the spared one provided. 4. Gently put back the plastic cover by following the track.

Chapter 2 Getting Started

1. Charge the battery for 3 hours by using the **wall charger** **(*page7*)** or **cigar charger** **(*page8*)** provided if you would like to run the TRACKSTARIII by battery embedded.

2. Please prepare a valid GSM SIM Card.

3. Insert the SIM card by following the procedure shown in **SIM Card Slot** **(*page8*)**.

4. Place the TRACKSTARIII upward and let it has a clear sky vision. **Switch** the power on.

5. You also can run or evaluate the TRACKSTARIII while it is charging.

6. The **Red LED** will be blinking while TRACKSTARIII is searching the GSM network.

7. After 10 ~ 20 flashes, the red LED should stay still. GSM network connection is successful. If you have any difficulties, please refer to the FAQ in the last *page*.

8. For the first-time operation of TRACKSTARIII, the **Blue LED** will light on and keep still within 90 seconds. That means the TRACKSTARIII gets the GPS fixed. If you have any difficulties, please refer to the FAQ.

9. You may start tracking!

Chapter 3 General Functions

After completing the procedures in **Chapter 2** (*page10*) and both red and blue LED keep the lights still, you may try the following functions of TRACKSTARIII.

The General Functions are described as following.

Polling (Requesting immediate response from TRACKSTARIII)

There are 2 methods to obtain the immediate response from TRACKSTARIII.

Method 1:

Dial the phone number of TRACKSTARIII through your mobile phone, and then you will receive a respond message within 20 seconds, depending on how busy the GSM network is.

Method 2:

When you are in overseas, you can send a command via SMS to the TRACKSTARIII (see Chapter 4.7, *page20*). And then you will receive a respond message.

Note1: *TRACKSTARIII can accept any cellular phone call and reply SMS message to the one that is calling.*
Note2: *Once the "Own Number Sending" function is deactivated in your cellular phone, TRACKSTARIII will not recognize the calling number so as to lose polling function.*

Change User ID and Password

The default user ID and password of TRACKSTARIII is "Username" and "0000" respectively. You can change them according to your preference. Please refer to Chapter 4.1 (*page 14*) and Chapter 4.6 (*page19*) for more information about how to change User ID and Password.

Predefine Cellular Number(s)

Before using the functions of **Auto Report**, **Emergency Alert** and **Park**, you need to predefine at least one and maximum of 5 cellular numbers. Please refer to Chapter 4.2 (*page15*) for more information of this setup.

Auto Report

TRACKSTARIII can report SMS message only to the designate cellular phone. It is the first cellular number predefined in TRACKSTARIII. However, the default Auto Report function is off. To turn on Auto Report function, send the setup SMS message to launch. See chapter 4.3 for further information.

Emergency Alert

When in emergency circumstance, you can press-and-release the on board "Panic Button" and TRACKSTARIII will send SMS message(s) to ***ALL*** the predefined cellular number(s). If you would like the draw attentions from people, you can press and hold on the button for more than 2 seconds. The built-in buzzer will alarm for 20 seconds and send emergency SMS message(s) at the same time.

Note1: *When the time you activate the buzzer by press-and-hold the Panic button for 2 seconds, the buzzer will be always alarmed in the future once you press the Panic button, even you just press-and-release.*

Note2: *If you would not like the buzzer to be always alarmed, you can switch TRACKSTARIII off for 30 seconds and then on.*

Parking

While you park or leave your vehicle or valuable asset for some personal purposes, you can press "Park" button to guard it. Once the Park function is launched and the carrier is moved without permission for over 500m from the original position, TRACKSTARIII will report "towed" messages to user for burglarproof purpose. The Parking SMS will only be sent to the 1st cellular phone number "PH-01" predefined in TRACKSTARIII. The SMS contains the GPRMC's UTC time, latitude and longitude information for you to track the carrier.

Note1: *Park function will not be activated when GPS is down (blue LED is gone).*

Note2: *Besides pressing the Park button activate Park function; you also activate it from distance by sending the TRACKSTARIII an SMS. Please see chapter 4.4 (page 17) for more information.*

Note3: *Each of the "Auto Report", "Emergency Alert", and "Parking" function needs to predefine the cellular phone number(s) for SMS sending.*

Low Power Alert

When TRACKSTARIII is in the condition of low power, it will automatically send you a SMS to inform you. In the SMS, it contains the $GPRMC's UTC time, latitude and longitude information for you to track the carrier. The description is seen in Chapter 5.5.

Chapter 4 Setup SMS Messages

TRACKSTARIII currently provides 8 commands to setup its functions. You can setup the TRACKSTARIII by following the instructions shown in this chapter via SMS through your cellular phone. Key the specific SMS message in your cellular as the instruction, sending it to the phone number of TRACKSTARIII. The setup messages are seen in the following sections.

Note1: *Before doing any setup, please ensure TRACKSTARIII is connected with the GSM network. The red LED must be lighted on and keep still.*

Note2: *While you are keying in any setup message, note that NO space is allowed in between the characters. Characters can be letters, commas or any signs.*

Note3: *Any setup message must be started with a "#" sign and ended up with a "*" sign.*

Note4: *Only when the password and setup message are correct, the TRACKSTARIII will update information itself according to user's definition.*

Note5: *Be sure to add the "Country Code" when you setup TRACKSTARIII's phone numbers; TRACKSTARIII can accept the "+" sign (e.g. +49xxxxxxxxx for German).*

4.1 Changing ID

You can change the ID of TRACKSTARIII by following the format below. No space is allowed in between the characters. For example, if you send the SMS message shown in *E.g.1* to the TRACKSTARIII, you will change the ID from "Username" to "GPS00001".

E.g.1

#Username,0000,1,GPS00001,GPS00001*

The table 4.1.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
1	Mode 1 is representing the ID setup
GPS00001	✧ New ID defined by the owner. ✧ *At the maximum of 8 characters.*
GPS00001	Confirm the new ID by keying it again. It must be exactly the same as the new ID keyed previously.
*	End sign.

Table 4.1.1

The table 4.1.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**GPS00001 setup OK. TRACKSTARIII ID updated.**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is in Emergency Mode	**Username in emergency, ID setup not allowed.**

Table 4.1.2

4.2 Predefine Cellular Number(s)

Use this SMS message to predefine the cellular number(s) of your TRACKSTARIII for **Auto Report, Emergency** and **Park** functions. By following the format of message, *E.g.2* below, you will predefine 5 sets of cellular numbers in TRACKSTARIII.

E.g.2

#Username,0000,2,+886123456789,+492234567890,+866323456789,
+886423456789,+886523456789*

The table 4.2.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
2	Mode 2 is representing the ID setup
+886123456789, +492234567890	1st set of cellular numbers, **PH-01**, 2nd set of cellular numbers, **PH-02**
+866323456789, +886423456789	3rd set of cellular numbers, **PH-03**, 4th set of cellular numbers, **PH-04**
+886523456789	5th set of cellular numbers, **PH0-5**
*	End sign.

Table 4.2.1

The table 4.2.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username setup OK. TRACKSTARIII phone updated.**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is in Emergency Mode	**Username in emergency, phone setup not allowed.**

Table 4.2.2

Note1: In order to be compatible with GSM Network Service in different countries, it is suggested to add the country code before the predefined cellular number(s) in TRACKSTARIII. Please do not forget to add a "+" sign before the country code. *Example: +491783496936 (German)*

Note2: *If you want to setup only 1 set of phone number for TRACKSTARIII to report, you need to add 4 commas "," straight after the phone number. TRACKSTARIII needs to recognize and separate different built-in numbers. Example: #Username,0000,2, +886123456789,,,,**

4.3 Auto Report Interval Setup

Use this SMS message to set up the frequency for **Auto Report** function after predefining the cellular number(s). If you send the SMS according to *E.g.3* seen below, you will have an Auto Report Message every 2 minutes. After 12 Auto Report messages are sent, TRACKSTARIII will stop sending.

E.g.3

#Username,0000,3,002,12*

The table 4.3.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
3	Mode 3 is representing report interval setup.
002	✧ Auto Report interval in minutes. ✧ **This parameter must be 3 digits.** The minimum unit is 002 and maximum is 120 minutes. ✧ For example, 002 means that an Auto Report message will be sent every 2 minutes. ✧ **To cancel Auto Report function, set the interval as "000**". The default setting of auto report is also off.
12	✧ Total number of SMS will be sent. ✧ **This parameter must be 2 digits.** ✧ For example, 12 means that only 12 Auto Report messages will be sent in total. After that, TRACKSTARIII will stop sending. ✧ If you set up this value being **"00"**, the TRACKSTARIII will stop Auto Report.
*	End sign.

Table 4.3.1

The table 4.3.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username setup OK. TRACKSTARIII auto-report.**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is in Emergency Mode	**Username in emergency, auto-report not allowed.**

Table 4.3.2

4.4 Activate Parking Function From Distance

Use this SMS message to remotely activate the **Park** function after predefining the cellular number(s). You can just send the SMS according to *E.g.4* seen below to TRACKSTARIII to activate the Park function. If you have changed the default ID, please use the updated one instead of "Username".

E.g.4

#Username,0000,4*

The table 4.4.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
4	Mode 4 is representing the Activation Of Parking Function From Distance.
*	End sign.

Table 4.4.1

The table 4.4.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username setup OK. TRACKSTARIII parking.**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is currently not GPS fixed	**Username GPS Time To First Fix, parking not allowed.**
TRACKSTARIII is in Emergency Mode	**Username in emergency, parking not allowed.**

Table 4.4.2

Note1: You can also launch the parking function by pressing the "Park" button on TRACKSTARIII.

4.5 Reset to Factory Default

Use this SMS message to reset TRACKSTARIII to factory default. You can just send the SMS according to *E.g.5* seen below to TRACKSTARIII to do resetting. If you have changed the default ID, please use the updated one instead of "Username".

E.g.5

#Username,0000,5*

The table 4.5.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
5	Mode 5 is representing the Reset.
*	End sign.

Table 4.5.1

The table 4.5.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username setup OK. TRACKSTARIII reset to default.**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is in Emergency Mode	**Username in emergency, reset not allowed.**

Table 4.5.2

When the reset setup is successful, all the user setting data in TRACKSTARIII will be erased and reset to default. Default settings are seen below.

Setting	Default Value
ID	Username
Password	0000
Time Interval (in minutes)	000
Total Number of Report	12
Predefined Cellular Number	Non
Parking	Disable

4.6 Changing Password

Use this SMS message *E.g.6* seen below to change the password of TRACKSTARIII

E.g.6

#Username,0000,6,5725,5725*

The table 4.6.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
6	Mode 6 is representing the Changing Password.
5725	New password. It has to be **4 digits.**
5725	Confirm the new password by repeating it.
*	End sign.

Table 4.6.1

The table 4.6.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username password setup OK**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**
TRACKSTARIII is in Emergency Mode	**Username in emergency, password not allowed.**

Table 4.6.2

4.7 SMS Polling

Besides dialing the number of TRACKSTARIII to obtain immediate response, you also can use SMS to do the same job. This is extremely useful when you are abroad. You can just send the SMS according to *E.g.7* seen below to TRACKSTARIII to obtain immediate response. If you have changed the default ID, please use the updated one instead of "Username".

E.g.7

#Username,0000,7*

The table 4.7.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
7	Mode 7 is representing the SMS Polling.
*	End sign.

Table 4.7.1

Situation	Message Reply
Incorrect password	**Username password error**
Incorrect parameter	**Username setup fail**

Once this SMS is sent successfully, you will receive a reply SMS from TRACKSTARIII within 30 seconds, depending on how busy the GSM network is.

Note1: *You will read the same reply message as you dial the TRACKSTARIII.*

Note2: *The description of each reply message will be seen in the coming chapter.*

4.8 Inquire IMEI code

Use this SMS message *E.g.8* seen below to inquire the IMEI code from TRACKSTARIII

E.g.8

#Username,0000,imei*

The table 4.8.1 is describing the meaning of each segment in the message above.

Text Keyed In SMS	Description
#	Start sign.
Username	Default ID of TRACKSTARIII.
0000	✧ Default password. ✧ If you have changed the password, please use the updated one.
imei	Mode imei is representing the Inquire IMEI code.
*	End sign.

Table 4.8.1

The table 4.8.2 is showing each confirm message reply after setup.

Situation	Message Reply
Setup Succeeds	**Username password setup OK**
Setup Fail	**Username setup fail.**
Incorrect password	**Username password error**

Table 4.8.2

Chapter 5 Respond SMS Messages

This chapter shows you how to read and understand the data/SMS sent from TRACKSTARIII. According to different situations, the TRACKSTARIII will send the SMS in different formats for you to distinguish them. Basically, there are 5 formats and they listed as below.

5.1 Via Dialing/ Poll Via SMS/ Auto Report……23
5.2 Parking……..……..24
5.3 Move……..……..25
5.4 Emergency……..……..……26
5.5 Low Power Alert……..……27

5.1 Poll Via Dialing / Poll Via SMS /Auto Report

Message Example

1. When GPS is currently fixed,

$Username,77,GSM:46697,BTS:3391F765,Poll,Now,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

2. When GPS is NOT fixed,

$Username,77,GSM:46697,BTS:3391F765,Poll,Pre.17:29,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

The table 5.1.1 is describing the meaning of each segment in the message above.

Text Shown In SMS	Description
$	Start sign.
Username	Default ID of TRACKSTARIII.
77	A encrypted code for PDA Track
GSM:46697	✧ The GSM Provider ID. ✧ In this case, 46697 is the GSM provider ID. This ID should be changed automatically once you change the GSM service provider.
BTS:3391F765	✧ The GSM Station ID ✧ It indicates the BTS code of current GSM station used for transmission. In this case, 3391F765 is the Station ID.
Poll	Indicates this SMS is sent from TRACKSTARIII because of either Polling or Auto Report.
Now(Pre 17:26)	✧ This segment indicates GPS data validity of TRACKSTARIII. ✧ If this segment is “Now”, it indicates that TRACKSTARIII is currently GPS fixed. ✧ If this segment is in 24 hour time format such as “Pre.17:26”, it indicates TRACKSTARIII currently cannot receive enough GPS signals to fix position so as to send the last GPRMC data. The time will be transformed to local time directly.
$GPRMC	GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.
*	End sign.

Table 5.1.1

5.2 Parking

Message Example

1. When GPS is currently fixed,

$Username,77,GSM:46697,BTS:2906F250,Still,Now,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

2. When GPS is NOT fixed,

$Username,77,GSM:46697,BTS:2906F250,Still,Pre.17:26,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

The table 5.2.1 is describing the meaning of each segment in the message above.

Text Shown In SMS	Description
$	Start sign.
Username	Default ID of TRACKSTARIII.
77	A encrypted code for PDA Track
GSM:46697	✧ The GSM Provider ID. ✧ In this case, 46697 is the GSM provider ID. This ID should be changed automatically once you change the GSM service provider.
BTS:2906F250	✧ The GSM Station ID ✧ It indicates the BTS code of current GSM station used for transmission. In this case, 2906F250 is the Station ID.
Still	After you press the “Park” key, while the carrier’s position is away from its parking space over 100m, TRACKSTARIII will auto report “towed” message to the first predefined phone number, PH-01; otherwise it will report “still”.
Now(Pre.17:26)	✧ This segment indicates GPS data validity of TRACKSTARIII. ✧ If this segment is “Now”, it indicates that TRACKSTARIII is currently GPS fixed. ✧ If this segment is in 24 hour time format such as “Pre.17:26”, it indicates TRACKSTARIII currently cannot receive enough GPS signals to fix position so as to send the last GPRMC data. The time will be transformed to local time directly.
$GPRMC	GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.
*	End sign.

Table 5.2.1

5.3 Move

Message Example

1. When GPS is currently fixed,

$Username,77,GSM:46697,BTS: 2906F250,Towed,Move 38m NW,Now,Position-$GPRMC,023722,A,2458.9681,N12125.6582,E,002.8,323.2,230805,003.5,WA*0C

1. When GPS is NOT fixed,

$Username,77,GSM:46697,BTS: 2906F250,Towed,Move 38m NW, Pre.17:26,Position-$GPRMC,023722,A,2458.9681,N12125.6582,E,002.8,323.2,230805,003.5,WA*0C

The table 5.3.1 is describing the meaning of each segment in the message above.

Text Shown In SMS	Description
$	Start sign.
Username	Default ID of TRACKSTARIII.
77	A encrypted code for PDA Track
GSM:46697	✧ The GSM Provider ID. ✧ In this case, 46697 is the GSM provider ID. This ID should be changed automatically once you change the GSM service provider.
BTS:2906F250	✧ The GSM Station ID ✧ It indicates the BTS code of current GSM station used for transmission. In this case, 2906F250 is the Station ID.
Towed	After you press the “Park” key, while the carrier’s position is away from its parking space over 100m, TRACKSTARIII will auto report “towed” message to the first predefined phone number, PH-01; otherwise it will report “still”.
Move 38m NW	✧ This segment indicates the movement of TRACKSTARIII. ✧ TRACKSTARIII will calculate the distance between the original position of your car and current position to show the moved distance and on-going direction.
Now(Pre.17:26)	✧ This segment indicates GPS data validity of TRACKSTARIII. ✧ If this segment is “Now”, it indicates that TRACKSTARIII is currently GPS fixed. ✧ If this segment is in 24 hour time format such as “Pre.17:26”, it indicates TRACKSTARIII currently cannot receive enough GPS signals to fix position so as to send the last GPRMC data. The time will be transformed to local time directly.
$GPRMC	GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.
*	End sign.

Table 5.3.1

5.4 Emergency

Message Example

1. When GPS is currently fixed,

$Username,77,GSM:46697,BTS:3391F765,SOS,Now,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

2. When GPS is NOT fixed,

$Username,77,GSM:46697,BTS:3391F765,SOS,Pre.17:26,Position-$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

The table 5.4.1 is describing the meaning of each segment in the message above.

Text Shown In SMS	Description
$	Start sign.
Username	Default ID of TRACKSTARIII.
45	A encrypted code for PDA Track
GSM:46697	✧ The GSM Provider ID. ✧ In this case, 46697 is the GSM provider ID. This ID should be changed automatically once you change the GSM service provider.
BTS:2906F250	✧ The GSM Station ID ✧ It indicates the BTS code of current GSM station used for transmission. In this case, 2906F250 is the Station ID.
SOS	✧ Indicating TRACKSTARIII is in Emergency status. ✧ Sent only when **Panic Button** is pressed. Please note that when the button is pushed no longer than 1 second, the buzzer will not alarm. Only when the button is pressed and held for more than 2 seconds should the buzzer activate. (But the SMS will always be sent to ALL the predefined phone numbers disregarding the buzzer)
Now(Pre.17:26)	✧ This segment indicates GPS data validity of TRACKSTARIII. ✧ If this segment is “Now”, it indicates GPS fix is in real time. ✧ If this segment is in 24-hour time format such as “Previously 17:26”, it indicates TRACKSTARIII currently cannot receive enough GPS signal to fix position so as to send the last GPRMC data at that time (it will be transformed to local time directly).
$GPRMC	GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.
*	End sign.

Table 5.4.1

Note1: *All the setting functions will be invalid once the Emergency is launched. Only when the power of TRACKSTARIII is turned off should the Emergency status be cancelled.*

5.5 Low Power Alert

Message Example

1. First low-power detection,

Username,Power low,Check/recharge ,Last trace-

$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

2. Second low-power detection,

Username,Power too low,recharge battery first ,Last trace-

$GPRMC,095838.000,A,2458.9733,N,12125.6583,E,0.41,79.21,220905,,*30

The table 5.5.1 is describing the meaning of each segment in the message above.

Text Shown In SMS	Description
Username	Default ID of TRACKSTARIII.
Power low / Power too ,ow	Indicates the power of the battery embedded is low.
Last trace	Before the power is exhausted, TRACKSTARIII will send a SMS containing information about the last position.
$GPRMC	GPS NMEA information from GPS receiver, including UTC time, latitude, longitude, speed, true course, etc. See Chapter 6 for detail.
*	End sign.

Table 5.5.1

Chapter 6 NMEA-0183 $GPRMC Description

RMC-Recommended Minimum Specific GNSS Data

Table below contains the values for the following example:

$GPRMC,161229.487,A,3723 2475,N,12158 .3416,W,0 .13,309 .62,120598,,*10

Name	Example	Units	Description
Message ID	$GPRMC		RMC protocol header
UTC Time	161229.487		hhmm ss.sss
Status	A		A=data valid or V=data not valid
Latitude	3723.2475		ddmm.mmmm
N/S Indicator	N		N=north or S=south
Longitude	12158.3416		dddmm.mmmm
E/W Indicator	W		E=east or W=west
Speed Over Ground	0.13	knots	
Course Over Ground	309.62	degrees	True
Date	120598		ddmmyy
Magnetic Variation[2]		degrees	E=east or W=west
Checksum	*10		
<CR><LF>			End of message termination

SiRF Technology Inc. does not support magnetic declination. All "course over ground" data are geodetic WGS48 directions.

Chapter 7 General Specifications

GPS Micro Tracker Model TRACKSTARIII

Dual Band GSM Module (EGSM 900/1800 MHz), Tri-band 1900 MHz Optional

Compliant with ETSI GSM Phase 2+ standard Class 4 (2W @ 900 MHz)

Class 1 (1W @ 1800/1900 MHz)

Equipped with 16 parallel channels GPS receiver in 0.35u CMOS technology

Emergency "panic" button

Acquisition Time

Reacquisition	<2 sec
Cold	<45sec TTFF (Time to First Fix)
Warm	<28 sec TTFF
Hot	<5 sec TTFF

Accuracy

Position Accuracy	15 meters RMS without SA
Velocity Accuracy	0.1 m/s without SA
Speed Accuracy	0.1 km/h without SA

Antenna Type

Internal GSM antenna / Internal GPS patch antenna

Power Supply

12V DC Cigarette Lighter/3.6V DC Li-Ion Battery (Option)

Operation Time

20hr minimum after full charged, in continuous mode.

Device Size and Weight

45 (W) x 66 (L) x 25 (H) mm, 87g

Environmental

Operating Temperature: -30°C to + 70°C

Storage Temperature: -40°C to + 85°C

Relative Humidity: 5% to 95%, non-condensing

Obtain CE and FCC approval with **CE** No: EM/2004/80113C and **FCC** ID: RUU-G19041000

Specifications subject to change without notice

Chapter 8 Warranty

Warranty Time Period and Repair Coverage

SAN JOSE NAVIGATION, INC. warrants TRACKSTARIII to be free from all defects and malfunctions in materials and workmanship for a period of 12 months from the original purchase date from San Jose Navigation or authorized dealers. If the equipment functions improperly during the warranty period, San Jose Navigation will either repair or replace the unit without charge. Such repair service will include necessary adjustment, remanufacture, and replacement. The product should be returned freight-prepaid by the purchaser within valid warranty period. **Notice that you must contact San Jose Navigation for a RMA (Return Material Authorization) number before returning the goods for repair**.

Telephone assistance will also be provided during the warranty period.

Limitations

This warranty is limited only to the repair or replacement of defective parts confirmed by San Jose Navigation to be a result of faulty materials or workmanship. Instruments mechanically or physically damaged due to the following conditions are beyond our warranty:

1. **Neglect, misuse or abuse, such as incorrect testing, installation, or operation.**
2. **Place subject in extreme environments beyond the limits of the specifications.**
3. **Subjected to disassembling, soldering, alteration, unauthorized repair, and electrical shock by nature.**
4. **Any incidental or consequential losses or damages result from the purchase.**
5. **Disaster, accident, cost or loss of any substitutive equipment.**

For damages caused under the above conditions, we'll contact you to discuss replacement options.

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ISO 9001:2000
12 100 18526 TMS

FAQ

Q:
GSM indicator (Red LED) kept blinking and never being still.
A:
You may eject the **SIM Card Slot** (page8) and reinstall it. Then examine the GSM network availability by a working mobile phone. Please use the same GSM service provider as what TRACKSTARIII has. Also check the PIN code of the SIM card in TRACKSTARIII is deactivated.

Q:
When polling, GSM indicator (Red LED) is fixed, but no reply message after TRACKSTARIII hang up the call.
A:
Please check 2 things.
1. If you are using the pre-paid SIM card, please check there is enough credit in it.
2. Check if you activate “Own Number Sending” on your mobile phone.

Q:
After switching on, the GSM indicator (Red LED) will flash or be still for a period of time and then drop off (Red LED is gone).

A:
Please connect the TRACKSTARIII with main power source by wall or cigar chargers provided and then check out if TRACKSTARIII works properly. If not, see the next FAQ.

Q:
TRACKSTARIII is not working if the external power source is removed.
A:
Please switch the TRACKSTARIII off and plug it with external power source. Let it charge for 2 hours and see if it is working after charging. If it is still not working after charging, you may change the battery.

Q:
The GSM indicator (Red LED) is still, but the GPS indicator (Blue LED) does not light on after a few minutes.
A:
Please make sure that your TRACKSTARIII has a clear sky vision. Leave it there for 2 minutes. If you still have difficulties in getting the blue LED on, try other place. The unknown electrical interference may influence the signals.

Q:

Why the embedded battery cannot last for 24 hours as the specification says?

A:

24 hours will be reached if the TRACKSTARIII is in standby mode. In another word, it's GPS status has to be in continuous tracking and always connected to the GSM network.

Q:

Why TRACKSTARIII does not hang up my phone when I am dialing its number?

A:

The GSM network of where TRACKSTARIII is in may not be good enough. The TRACKSTARIII might not actually receive your call. You may have to wait for a while and dial again. Or you can send a SMS commands (page21) to request the response from TRACKSTARIII.

Q: